

WEST BANK/GAZA

**Comprehensive Assessment of
Industrial Estate Sites in The West Bank and Gaza**

TSG-SITE Project
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1. Introduction

1.1 Background

This final report is provided under the TSG-SITE project in West Bank/Gaza – a USAID funded project supporting investment, trade, and employment in Palestinian Industrial Estates and Free Zones. It results from a mission conducted by Can Tutuncu, TSG Free Zones Consultant, to West Bank/Gaza between the dates of 11 July 1999 and 27 July 1999, where he inspected thirty potential sites for industrial estates and met with the relevant officials in local and national agencies.

The terms of reference for this study and the proposed terms of reference for the next steps are included in Annex 2 and Annex 3 of this report, respectively.

1.2 Objectives

The objectives of this study are to identify industrial sites in the West Bank/Gaza Strip, in addition to the currently identified sites, and rank these in terms of suitability and development potential, and to draw up the terms of reference for a comprehensive prefeasibility study for the most suitable site/sites. The four sites that a preliminary assessment was made for (February 1999) were kept out of the scope of this work:

- Site at Nablus studied by WS Atkins
- Jenin Industrial Estate being developed by Northern International & Industrial Co.
- Site at Qalqilia, on the outskirts and to the south of the town, close to the green line.
- Site at Khadoury, Tulkarm, in the grounds of the Palestine Technical College

1.3 Report Structure

The remainder of this report is structured as follows:

Chapter 2 sets out the site evaluation criteria that are applied to the sites visited during the study, and describes guidelines on how to apply these criteria. The evaluation criteria applied are the same as those contained in the TSG Site Assessment report, February 1999, as called for by the Terms of Reference (see Annex 2).

Chapter 3 presents how the sites to be visited were identified, lists the sites visited, explains the ranking methodology and reviews the sites through the use of a matrix. Based on the review matrix, the sites are then ranked and resulting conclusions on the suitability or otherwise of the sites for further investigation or feasibility study are presented.

Chapter 4 sets out the recommended next steps for the development of the best candidate site(s).

Annex 1 comprises of visual presentations of the sites visited during the field mission.

Annex 2 presents the Terms of Reference for this study.

Annex 3 presents the Terms of Reference proposed for the next steps.

2. Guidelines for Evaluating IE/FZ Sites

2.1 Introduction

An industrial estate represents the vision that one enterprise, the developer, holds as a means of satisfying the needs of a multitude of other enterprises – the industrial estate tenants or individual industries. The principle behind developing industrial estates is one of economy of scale in the provision of services, and economy of scale in regulation, planning control and environmental protection.

Therefore there are two types of factors that need to be considered in evaluating locations for industrial estates. The first are the broader issues that relate to the wider geographical location of the estate, and in this case these have been called the external criteria. The second are the narrower issues of the benefits of one site relative to another within the same or similar geographical areas. These have been called the internal criteria.

This split is similar to the process that an individual investor goes through when making a site location decision for his factory. First the investor decides on a geographical region or policy environment for his factory, then he narrows down his choice within these regions or environments.

2.2 External Criteria

The external criteria identified for the evaluation of the sites visited in the West Bank are:

- End user market orientation
- Functional relationship and integration
- Infrastructure availability
- Accessibility (people and goods)
- Environmental impacts

- Security concerns
- National development policy context

These are considered individually below.

End User Market Orientation

This examines the suitability of the location to address the market access needs of the end user (individual producer). All of the sites in the West Bank will display more or less the same characteristics in this regard since the West Bank enjoys uniform access to end markets. Where the primary market is Israel, sites close to the green line will enjoy some advantage.

Functional Relationship and Integration

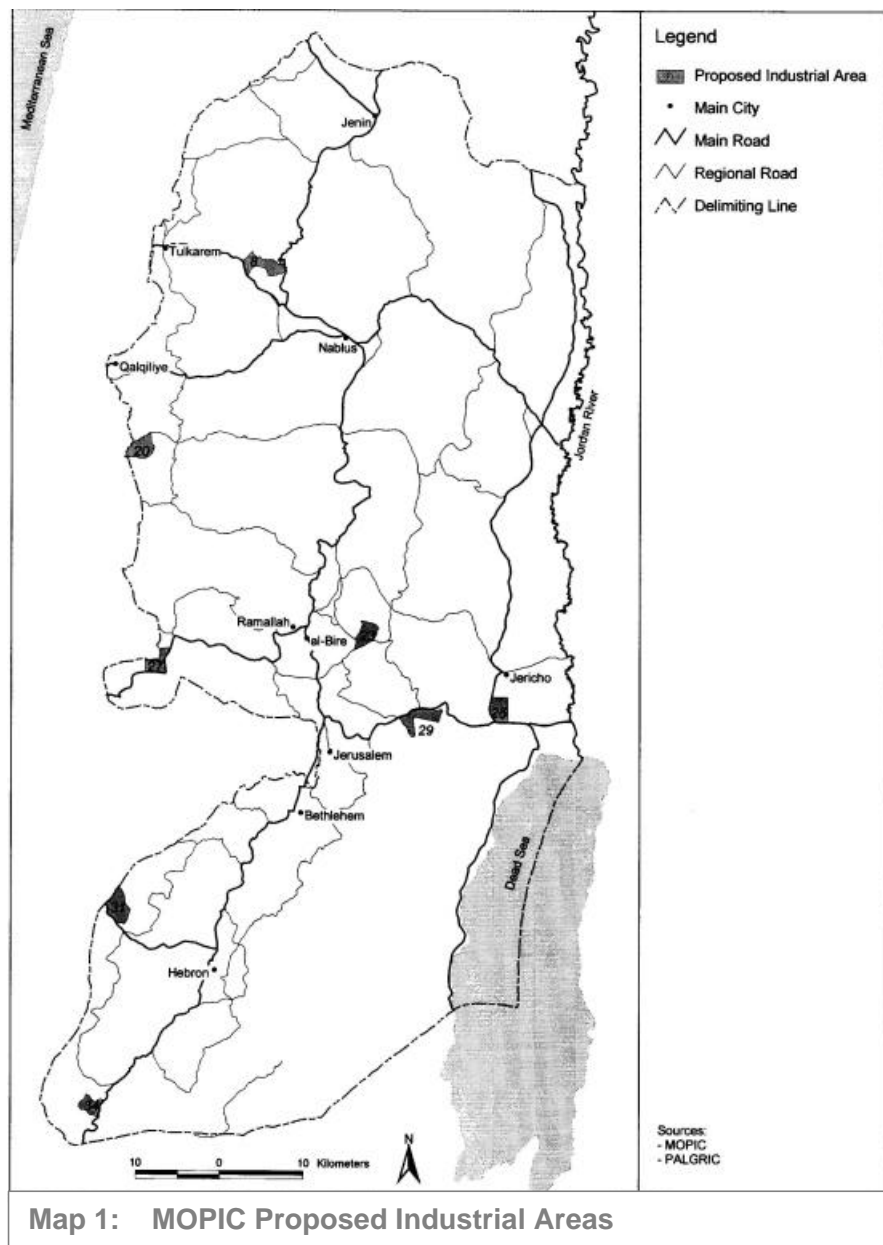
This factor has to do with the way in which the intended location fits in with the overall planning imperatives of the area. The Ministry of Planning and International Cooperation (MOPIC) has conducted some planning work on suitable locations for industrial sites that take account of population growth, expansion needs of existing business, estimated demand for new space, need to protect the environment and linkages to existing services. The MOPIC preferred top 10 locations within the West Bank are indicated in Map 1 next page. A few of the sites visited and evaluated in this report are within or close to the areas proposed by MOPIC.

Infrastructure Availability

This examines the major infrastructural needs – road access, water, sewerage, electricity, special infrastructure if relevant e.g. port or airport access, natural gas, and so on.

Accessibility

Related to infrastructure (above) this factor examines how easy or difficult it will be for people and goods to gain access to the location. This will include access to an international airport for foreign investors, border crossings for non-Palestinians, and customs and



internal procedures for goods entering and leaving the area.

Environmental Impacts

Some geographical locations are more sensitive environmentally than others so this is an external criterion. The environment is also an internal criterion since individual locations within a geographic region may have different degrees of environmental sensitivity.

Security Concerns

This factor is especially important in the current situation in the West Bank. Authorization by the Israeli authorities of the designation of Zone C locations for industrial use is primarily driven, according to landowners interviewed, by security concerns. The attractiveness of locations close to the green line is also partly explained by the security concerns of both sides.

National Development Policies

National Development Policy is a more or less uniform factor in the West Bank. The Palestinian National Authority wants to see industrial development take place wherever it has the best chances of success. As a result, policies are applied uniformly.

2.3 Internal Criteria

The internal criteria identified for the evaluation of the sites visited in the West Bank are:

- Suitability of terrain – slope, shape, configuration
- Site area and potential for expansion
- Land ownership and availability
- Environmental impacts
- Initial and long-term availability of services

These are considered individually below.

Suitability of Terrain

This factor has a direct cost implication for the development of the site. However, there are a few aspects to be considered. Land value (and therefore purchase cost) usually reflects the suitability of the site for a specific use. So it is not enough to simply say a site is suitable or unsuitable – such a judgement should be combined with an assessment of the costs to make the land suitable, and the resulting land cost when compared to a “suitable” site with the same locational characteristics.

Site Area

In most developments, there will be an entry cost (or fixed cost) that will apply no matter how small or large the industrial estate. This is usually in the form of connection to services, provision of off-site infrastructure, and the general planning and transaction overheads that apply to any development. In addition to the entry cost are the economies of scale that larger developments realize over smaller developments. These economies apply to capital investment – larger pipes are not much more expensive to install than smaller ones, roads are seldom used to capacity, and so on. They also apply to operational aspects – a smaller staff is needed per ha in a large development than a small one.

Taking all of this into account, the requirement for industrial estates is that in an open area 100ha or so should be available for development. A first phase development of 40ha is a minimum requirement. Smaller urban zones of as little as 25ha are sometimes built, but these usually enjoy a better than average access to a wide range of services close by, reducing start-up costs, and deal only on a narrow range of activities compatible with an urban setting.

Land Ownership

Site assembly is at the core of the developer’s art, and the last few parcels of land always cost more than the first. A development can be delayed for months and even years if this issue is not addressed at the earliest stage.

However, there are ways round the issue that might be considered in developing industrial estates in the West Bank, where land is in short supply. Landowners could put their holding into the development as equity, or a public holding company could be formed where outright sale is impossible. This would allow landowners to participate in the upside of the development.

*Initial and long-term
availability of services*

This gives a head start to the developer. If the initial infrastructure is good, large capital expenditure is avoided in the beginning before the project begins to generate income. The key factor here is if the availability of the infrastructure is not yet or adequately reflected in the value of the raw land. This is where the saving can be made.

3. Review of Potential Sites

3.1 Identification of Sites The identification of sites to be visited was done based on the following:

- Suggestions from PIEFZA that are based on previous work carried by PIEFZA in 1996 (All field visits were accompanied by Mr. Someida Abbas, local counterpart from PIEFZA).
- Studying contour maps; water facilities maps; power grid maps; environmental maps; and roadmaps of the area.
- Studying previous work by Ministry of Planning and International Cooperation, and Ministry of Industry.
- Reviewing the feasibility studies for the Jenin and Nablus potential IE/FZ sites in the West Bank.
- Reviewing TSG reports on Tulkarm and Qalqiliya potential IE/FZ sites.
- Suggestions from Ministries of Housing, Industry, and Planning and International Cooperation.
- Suggestions from local authorities.

3.2 Sites Visited

During the course of the field studies in West Bank and Gaza, a total of twenty-eight sites were visited in West Bank for investigative purposes, and two potential sites were visited in Gaza.

The sites visited for investigative purposes do not represent the complete universe of sites available in the West Bank. It was clear from the discussions held with various officials in the Palestinian National Authority and its agencies that an overall land use policy has not yet been implemented in the West Bank and that the work being undertaken by MOPIC needs to be coordinated with the planning activities being undertaken by PIEFZA. That aside, the sites examined do capture the range of

challenges facing the development of industrial estates in the West Bank and Gaza, and from that perspective provide a useful framework from which to proceed.

Before reviewing the characteristics of each site under the evaluation criteria presented in Chapter 2, it is useful to briefly summarize the common denominator of each geographic group of sites.

- | | |
|--------------------------|--|
| Northern West Bank Sites | This group of sites includes all visited sites to the north of Nablus and is driven by the shortage of development land close to Nablus. Upon request from USAID and PIEFZA, the visits concentrated on sites along the possible route of a planned highway between Jenin and Nablus. |
| Mid West Bank Sites | This group of sites includes all visited sites that are located to the south of Nablus and north of Jerusalem. This group comprises of sites around Jericho city, which has development priority under the National Development Policy Context, and sites around Ramallah which were investigated with the prospect of contributing to regional development of this area. |
| Southern West Bank Sites | This group of sites includes all sites that are located to the south of Jerusalem. The main focus of this group is to draw on the industrial experience and labor force of Hebron city and its surrounding to contribute to the regional development of the area. |
| Gaza Sites | This group includes Rafah and Deir al Balah sites visited in Gaza. Rafah site has the additional advantage of being adjacent to the Gaza International Airport, which may prove to be attractive for certain industries that prefer air-shipping their raw material as well as finished goods. Deir al Balah was considered upon suggestions of the Ministry of Industry due to its central location in Gaza, and its potential to draw upon the unemployed labor force in the area. |

The following table presents a list of sites visited during the field trip; the symbols designated are marked on Maps 2 and 3 in the following pages:

SYMBOL	NAME	LOCATION
V1	Qilqis	South of Hebron
V2	Beit Fajjar	Northeast of Hebron
V3	Kisan	Northeast of Hebron
V4	Husan	West of Bethlehem
V5	Beit Sahur	East Bethlehem
V6	Deir Hajla	South of Jericho
V7	Jericho North	North of Jericho
V8	Al Auja South	South of al Auja
V9	Al Auja North	North of al Auja
V10	Fasayil	North of al Auja
V11	Jericho South	South of Jericho
V12	Al-Khan Al-Ahmar	Between Jerusalem and Jericho
V13	Mikhmas	Southeast of Ramallah
V14	Al Deirat	Southeast of Hebron
V15	Qinan Jaber	South of Hebron
V16	Arab al Fureijat	Southwest of Hebron
V17	Somara	Southwest of Hebron
V18	Tarqumiya	West of Hebron
V19	Al Masudiya	Northwest of Nablus
V20	Qalqiliya North	North of Qalqiliya City
V21	Qalqiliya East	East of Qalqiliya City
V22	Al Aqrabaniya	Northeast of Nablus
V23	Aggaba	North of Nablus
V24	Al Kufeir	North of Nablus
V25	Al-Zababida	North of Nablus
V26	Sanur	North of Nablus
V27	Beit Sira	West of Ramallah
V28	Ramallah	Between Ramallah and Beituniya
V29	Deir al Balah	East of Deir al Balah
V30	Rafah	Northeast of Rafah International Airport

INSERT MAP 2

INSERT MAP 3 HERE

3.3 Methodology for Ranking Sites

Since the goal in ranking the sites is to find out the most suitable areas for industrial development, the ranking will be done both from the point of a developer, and from the point of view of regional development. As such the internal and external criteria are assumed to carry equal value (i.e. they are assigned equal weights; 50 points out of a total of 100). Then within each group, all criteria are assigned different weights based on their effect on the decision of a developer. This is done considering the fact that the initial cost and the development cost are among the main concerns for any single developer while making such a business decision and the fact that the goal in selecting suitable sites is to maximize the contribution of industrial development to national development.

While criterion such as land price, ownership, availability, suitability of terrain, existing infrastructure, accessibility of the site, and availability of services will directly impact the cost of such a development, other criterion such as national development context, environmental impacts, and security concerns has less of an impact on the decision making of a developer. The assigned weight for each criterion is done taking this fact into consideration.

The proportion of the assigned weight to the total (i.e. 100 points) yielded in the weighted multiplier for each factor to be used in calculating the final score for each site. The assigned weights and weighted multipliers for each criterion are presented as follows:

EXTERNAL CRITERIA	Assigned Weights	Weighted Multipliers
End User Market Orientation	5 points	0.05
Functional Relationship and Integration	8 points	0.08
Infrastructure Availability	9 points	0.09
Accessibility	9 points	0.09
Environmental Impacts	5 points	0.05
Security Concerns	5 points	0.05
National Development Context	9 points	0.09
SUBTOTAL	50 points	

INTERNAL CRITERIA	Assigned Weights	Weighted Multipliers
Suitability of Terrain	12 points	0.12
Site Area and Potential for Expansion	7 points	0.07
Land Ownership and Availability	12 points	0.12
Environmental Impacts	7 points	0.07
Initial & Long Term Availability of Services	12 points	0.12
SUBTOTAL	50 points	
TOTAL	100 points	

Ranking of the sites is based on the evaluation criteria presented before. For every criterion, each site is assigned a score from 1 to 5 (with the highest possible grade for a site being 5) depending on its fulfillment of or fit to the criterion (see the review matrix presented in the following pages). Then the assigned score for each criterion is multiplied with the weighted multiplier (against which the site was assessed for) to yield weighted scores. Finally, all weighted scores are added up to determine the final scoring of the sites.

CALCULATING THE FINAL SCORE OF A SITE

Lets suppose Site A has scored according to the following table. In order to calculate the final score of a "Site A", for each of the criterion, the weighted multiplier for each criterion (Column A) is multiplied by the assigned score (Column B) result in the weighted scores. Those are then added up to result in the Subtotal values for each set of criteria (i.e., for external and internal criteria). These subtotals are then added up to find the final score of "Site A".

	Column A	Column B	Column C = (Column A) x (Column B)
External Criteria	Weighted Multiplier	Score	Weighted Scores
End User Markets	0.05	3	0.15
Integration	0.08	5	0.40
Infrastructure	0.09	4	0.36
Accessibility	0.09	5	0.45
Environment	0.05	5	0.25
Security	0.05	3	0.15
Development	0.09	4	0.36
SUBTOTAL			2.12
Internal Criteria	Weighted Multiplier	Score	Weighted Scores
Terrain	0.12	4	0.48
Site Area and	0.07	5	0.35
Land Ownership	0.12	5	0.60
Environment	0.07	4	0.28
Services	0.12	5	0.60
SUBTOTAL			2.31
TOTAL			4.43

3.4 Review Matrix

The matrix for detailed site evaluation is set out below.

Table 1: Evaluation Matrix – Northern West Bank Sites -- External Criteria

Evaluation Criterion	Aggaba Site (V23)	Al Kufeir Site (V24)	Al-Zababida Site (V25)
End user market orientation	WBG existing industrialists, expatriate Palestinians, Israeli and International investors.	WBG existing industrialists, expatriate Palestinians, Israeli and International investors.	WBG existing industrialists, expatriate Palestinians, Israeli and International investors.
Score:	4	4	4
Functional relationship and integration	Good location between Nablus and Jenin and on the possible route of the proposed highway.	Good location between Nablus and Jenin and on the possible route of the proposed highway.	Good location between Nablus and Jenin and on the possible route of the proposed highway.
Score:	4	4	4
Infrastructure availability	<p>Water: existing 4" water line and Palestinian owned water reservoir</p> <p>Power: existing power lines on west side of Road #588 (need to verify capacity)</p> <p>Wastewater: No information available</p> <p>Solid waste: No information available</p>	<p>Water: possible connection to 6" water line</p> <p>Power: existing power lines on west side of Road #588 (need to verify capacity)</p> <p>Wastewater: No information available</p> <p>Solid waste: No information available</p>	<p>Water: possible connection to 6" waterline</p> <p>Power: existing power lines on west side of Road #588 (need to verify capacity)</p> <p>Wastewater: No information available</p> <p>Solid waste: No information available</p>
Score:	4	4	4
Accessibility (people and goods)	Current road access not very good (road between Aggaba to Tubas not suitable for truck traffic). Could get better if proposed highway is implemented, location close to Tubas and Al-Zababida.	Accessibility will improve significantly if road expansion were to be done.	Accessibility will improve significantly if road expansion were to be done.

Evaluation Criterion	Aggaba Site (V23)	Al Kufeir Site (V24)	Al-Zababida Site (V25)
Score:	3	3	3
Environmental impacts	Negative impacts can be mitigated. Surrounded by agricultural areas, close to Aggaba.	Negative impacts can be mitigated. Surrounded by agricultural areas, close to Al-Zababida	Negative impacts can be mitigated. Surrounded by agricultural areas, close to Al-Zababida
Score:	4	4	4
Security concerns	Good open area, easily policed and secured.	Good open area, easily policed and secured.	Good open area, easily policed and secured.
Score:	5	5	5
National development policy context	Not identified in MOPIC draft regional plan.	Not identified in MOPIC draft regional plan.	Not identified in MOPIC draft regional plan.
Score:	4	4	4
Conclusion: External Criteria	Considerable site for industrial development	Considerable site for industrial development	Considerable site for industrial development
Weighted SubTotal Score for External Criteria:	1.96	1.96	1.96

Table 1 continued: Evaluation Matrix – Northern West Bank Sites -- External Criteria

Evaluation Criterion	Sanur Site (V26)	Al Masudiya Site (V19)	Al Aqrabaniya Site (V22)	Comment
End user market orientation	WBG existing industrialists, expatriate Palestinians, Israeli and International investors.	WBG existing industrialists, expatriate Palestinians, Israeli and International investors	Industrialists from Nablus, other WBG industrialists, expatriate Palestinians, international investors.	Outcome: no distinction
Score:	4	4	4	
Functional relationship and integration	Good location between Nablus and Jenin surrounded with smaller localities like Sanur, Meithalun, and Qabatiya.	Strategic location at the crossroads of four major cities: Nablus, Qalqiliya, Tulkarem, and Jenin. Close to the main highway (road #60).	Good location close to the possible route of the planned highway connecting Jenin to Nablus, also good connection to Adam Bridge to Jordan.	Outcome: All sites have good functional relationships and integration qualities, however Al Masudiya and Aqrabaniya stand out
Score:	4	5	5	
Infrastructure availability	<p>Water: area rich in water, possible connection to 8" waterline and existing Palestinian Water reservoir</p> <p>Power: need to enhance the existing power capacity.</p> <p>Sewage treatment: No information available</p> <p>Solid waste: No information available</p>	<p>Water: Possible connection to Israeli waterline</p> <p>Power: Possible connection to Israeli power grid.</p> <p>Wastewater: Possible connection to Shavei Shomron sewer lines.</p> <p>Solid waste: Need to be addressed.</p>	<p>Water: Area rich in water, Possible connection to Israeli waterline</p> <p>Power: Possible connection to power lines to the village (need to verify capacity)</p> <p>Wastewater: No information available</p> <p>Solid waste: Need to be addressed.</p>	<p>Outcome: Water, electricity situation equal for all sites.</p> <p>While other sites require provision of additional sewage treatment capacity and solid waste sites, Al Masudiya has potential access to nearby infrastructure.</p>

Evaluation Criterion	Sanur Site (V26)	Al Masudiya Site (V19)	Al Aqrabaniya Site (V22)	Comment
Score:	3	5	4	
Accessibility (people and goods)	Accessibility will improve significantly if road connection between Al Asasa and Sanur were to be expanded.	Road access very good. Close to four centers of population: Nablus, Qalqiliya, Tulkarem and Jenin.	Good road access to Jordan and Jericho, the road to Nablus could pose problems for truck traffic as it is very steep.	Outcome: Masudiya and Aqrabaniya have good connections to centers of population, Road access to other sites need improvement.
Score:	3	5	5	
Environmental impacts	Negative impacts can be mitigated. Surrounded by agricultural areas, close to Sanur	Negative impacts can be mitigated.	Negative impacts can be mitigated.	Outcome: No distinction
Score:	4	4	4	
Security concerns	Good open area, easily policed and secured.	Could be easily policed and secured.	Could be easily policed and secured.	Outcome: No distinction
Score:	5	5	5	
National development policy context	Not identified in MOPIC draft regional plan.	Identified as industrial site of first priority in MOPIC draft regional plan.	Not identified in MOPIC draft regional plan, however site has strategic potential in the regional development of villages around.	Outcome: Masudiya and Aqrabaniya has better potential to contribute to national development of West Bank
Score:	4	5	5	

Evaluation Criterion	Sanur Site (V26)	Al Masudiya Site (V19)	Al Aqrabaniya Site (V22)	Comment
Conclusion: External Criteria	Considerable site for industrial development	Very good location for industrial development, but part of the area needs approval of Israeli Authorities	Good location based on the external criteria.	Outcome: all of the sites are potential industrial locations based on external criteria. Masudiya site and Aqrabaniya site are especially good locations because of their proximity to centers of population, and access to infrastructure.
Weighted SubTotal Score for External Criteria:	1.87	2.40	2.31	

Table 2: Evaluation Matrix – Northern West Bank Sites -- Internal Criteria

Evaluation Criterion	Aggaba Site (V23)	Al Kufair Site (V24)	Al-Zababida Site (V25)
Suitability of terrain – slope, shape, configuration	Terrain very suitable, very flat on both sides of road #588.	Terrain very suitable, very flat on east side of road #588.	Terrain very suitable, very flat on east side of road #588.
Score:	5	5	5
Site area and potential for expansion	Approx. 50ha with potential for expansion	Approx. 40ha with potential for limited expansion	Approx. 80ha with potential for phased development and expansion
Score:	5	4	5
Land ownership and availability	Privately owned (need to verify)	Privately owned (need to verify)	Privately owned (need to verify)
Score:	3	3	3
Environmental Impacts	Negative impacts need to be studied, potential area for clean industries.	Negative impacts need to be studied, potential area for clean industries.	Negative impacts need to be studied, potential area for clean industries.
Score:	3	3	3
Initial and long-term availability of services	Some access to services	Some access to services	Some access to services
Score:	4	4	4
Conclusions: Internal Criteria	Good site – major concern is approval of Israeli authorities.	Fair site for industrial development	Considerable site for industrial development
Weighted SubTotal Score for Internal Criteria:	2.00	1.93	2.00

Table 2 continued: Evaluation Matrix – Northern West Bank Sites -- Internal Criteria

Evaluation Criterion	Sanur Site (V26)	Al Mas'udiya Site (V19)	Al Aqrabaniya Site (V22)	Comment
Suitability of terrain – slope, shape, configuration	Terrain very suitable, with almost no slope.	Non rocky terrain between hills, very suitable, rectangular shape	Very good terrain with almost zero slope, mostly soil	Outcome: No distinction
Score:	5	5	5	
Site area and potential for expansion	Very large area (approx. 500ha) used for agriculture, potential for expansion	48 ha available for initial development, used for agricultural purposes, 800 ha is available for expansion according to MOPIC.	50ha available to the north of road #57, and approx. 300ha or more to the south of road #57 available.	Outcome: all sites suitable except for Kufair site.
Score:	5	5	5	
Land ownership and availability	No information available	Major part owned by Ministry of Housing and partly private ownership.	Privately owned land (need to verify), all farm-use land.	Outcome: Al Masudiya offers an advantage as it is owned by the government
Score:	3	5	3	
Environmental Impacts	Negative impacts need to be studied, potential area for clean industries.	Impacts can be mitigated, wind blows from southeast direction to northwest direction to populated areas.	Impacts can be mitigated.	Outcome: Each site can be protected environmentally.
Score:	4	4	4	
Initial and long-term availability of services	Some access to services	Some access to services	Available	Outcome: no distinction.
Score:	4	5	5	

Evaluation Criterion	Sanur Site (V26)	Al Mas'udiya Site (V19)	Al Aqrabaniya Site (V22)	Comment
Conclusions: Internal Criteria	Possible location for clean industries.	Very good site – opportunity cost of agriculture must be considered.	Very good site – opportunity cost of agriculture must be considered.	Outcome: Al Masudiya and Al Aqrabaniya are preferred sites based on the internal criteria.
Total Score:	2.07	2.43	2.19	

Table 3: Evaluation Matrix – Mid West Bank Sites -- External Criteria

Evaluation Criterion	Qalqiliya North Site (V20)	Qalqiliya East Site (V21)	Beit Sira Site (V27)	Mikhmas Site (V13)
End user market orientation	WBG existing industrialists, expatriate Palestinians, Israeli and International investors: Good location for this market – right by the green line	WBG existing industrialists, expatriate Palestinians, Israeli and International investors: Good location for this market – right by the green line	WBG existing industrialists, expatriate Palestinians, Israeli investors: Good location for this market – right by the green line	WBG existing industrialists, expatriate Palestinians, Israeli investors Very close to densely populated local markets
Score:	5	5	5	5
Functional relationship and integration	Good location at the border of green line close to the Israeli cities of Kfar Saba, Hod Ha Sharon, and Ra'anana and the main highway.	Good location at the border of green line close to the Israeli cities of Kfar Saba, Hod Ha Sharon, and Ra'anana and the main highway.	Good location half way between Ramallah and Jerusalem.	Location very close to Ramallah and Jerusalem.
Score:	5	5	5	4

Evaluation Criterion	Qalqiliya North Site (V20)	Qalqiliya East Site (V21)	Beit Sira Site (V27)	Mikhmas Site (V13)
Infrastructure availability	<p>Water: possible connection to two Palestinian reservoirs in the area, available from local aquifers. 43 wells in Qalqiliya. Needs to be proven</p> <p>Power: could be linked to Qalqiliya power grid</p> <p>Wastewater: possible connection to municipal network</p> <p>Solid waste: Qalqiliya municipal dump yard could be used.</p>	<p>Water: water available, Palestinian wells and reservoir</p> <p>Power: very close to electricity lines of 22-33kv.</p> <p>Wastewater: possible connection to Municipal network</p> <p>Solid Waste: Qalqiliya municipal dump yard could be used.</p>	<p>Water: Possible connection to Israeli water lines. About three wells used for irrigation.</p> <p>Power: possible connection from Israeli settlements of Beit Sira or Beit Nuba</p> <p>Wastewater: possible connection to Israeli system</p> <p>Solid waste: information not available</p>	<p>Water: possible connection to 16" Israeli water line and two reservoirs</p> <p>Power: No information available</p> <p>Sewage treatment: Information not available</p> <p>Solid waste: information not available</p>
Score:	4	4	4	3
Accessibility (people and goods)	Road access very good. Quick transportation to Nablus, Tulkarm and Kfar Saba. 35,000 people in Qalqiliya, and 30 villages in the area.	Road access very good. Quick transportation to Nablus, Tulkarm and Kfar Saba. 35,000 people in Qalqiliya, and 30 villages in the area.	Very accessible from major cities and towns via roads #60,443 and 30.	Fairly good access to major roads connecting to major cities
Score:	5	5	5	4
Environmental impacts	Negative impacts can be mitigated.	Negative impacts can be mitigated.	Negative impacts should be considered due to agricultural land around.	Negative impacts should be studied due to agricultural land and populated areas around.
Score:	5	5	4	3

Evaluation Criterion	Qalqiliya North Site (V20)	Qalqiliya East Site (V21)	Beit Sira Site (V27)	Mikhmas Site (V13)
Security concerns	Needs security assessment, as location is between Qalqiliya and Eyal Settlement and very close to the green line.	Security could be provided.	Security issues should be addressed, area nearby "No Man's Land".	Fairly open area, security could be easily provided.
Score:	3	5	4	5
National development policy context	This site is an alternative to previously assessed area to the south of Qalqiliya, and not identified in MOPIC draft regional plan.	This site is an alternative to previously assessed area to the south of Qalqiliya, and not identified in MOPIC draft regional plan.	Identified as industrial site of second priority in MOPIC draft regional plan.	Identified as industrial site of second priority in MOPIC draft regional plan.
Score:	4	4	5	5
Conclusion: External Criteria	Good location for industrial development, unless the previously assessed site could be utilized.	Good location for industrial development, unless the previously assessed site could be utilized.	Good location for industrial development.	Good location, but very close to Ramun Settlement, and needs Israeli authorities' approval.
Weighted SubTotal Score for External Criteria:	2.22	2.32	2.31	2.08

Table 3: Evaluation Matrix – Mid West Bank Sites -- External Criteria

Evaluation Criterion	Jericho South Site (V11)	Deir Hajla Site (V6)	Jericho North Site (V7)	Auja South Site (V8)
End user market orientation	WBG existing industrialists, expatriate Palestinians, International investors: Good location for this market – close to Jordan	Same as Jericho South site	Although located close to Jericho South and Deir Hajla, this site is not as attractive for the investors in accessing the local market.	Same as Jericho North site
Score:	5	5	4	4
Functional relationship and integration	Good location at the crossroads of two major highways main highway.	Good location very close to Jordanian border, and very close to Jericho. Not nearby the main highway.	Good location between Al Auja and Jericho.	Good location very close to Al Auja (population of 3,000), and Jericho
Score:	5	4	4	4
Infrastructure availability	Water: possible connection to 10" Israeli waterline Power: close to main lines feeding Jericho Wastewater: Not Known Solid waste: Possible usage of Jericho municipal dump	Water: existing water well, possible connection to Israeli waterline Power: new line could be installed from Jericho, or IEC. Sewage: line needs to be constructed. Solid waste: needs to be planned.	Water: possible connection to Israeli waterline Power: Possible connection to Jericho power grid Sewage treatment: No information available Solid waste: Possible usage of Jericho municipal dump	Water: possible connection to Israeli waterline Power: Possible connection to Al Auja and Jericho grids Sewage treatment: No information available Solid waste: Possible usage of Jericho municipal dump
Score:	4	4	4	4

Evaluation Criterion	Jericho South Site (V11)	Deir Hajla Site (V6)	Jericho North Site (V7)	Auja South Site (V8)
Accessibility (people and goods)	At the intersection of two major roads with very good access. Close to a center of population.	Very close to Jericho: 4km.	Very close to Jericho	Only 600m away from the main highway between Jericho and Al Auja.
Score:	5	4	4	5
Environmental impacts	Negative impacts can be mitigated. Restricted industry access.	Negative impacts can be mitigated.	Need to address environmental impacts as location is in between two populated locations.	Same
Score:	5	5	4	4
Security concerns	Good open area, easily policed and secured.	Good open area, easily policed and secured.	Same as Deir Hajla	Same
Score:	5	5	5	5
National development policy context	Identified as industrial site of first priority in MOPIC draft regional plan.	Identified as industrial site of first priority in MOPIC draft regional plan, however distant from populated areas when compared to Jericho South.	Not identified in the MOPIC draft regional plan.	Not identified in the MOPIC draft regional plan.
Score:	5	4	4	4
Conclusion: External Criteria	Good location for industrial development, the implications of an industrial estate for tourism should be considered.	Good location for industrial development.	Good location, but concern is that the area is right by the Israeli military area	Good location
Weighted SubTotal Score for External Criteria:	2.41	2.15	2.05	2.14

Table 3 continued: Evaluation Matrix – Mid West Bank Sites -- External Criteria

Evaluation Criterion	Fasayil Site (V10)	Auja North Site (V9)	Al-Khan Al-Ahmar Site (V12)	Ramallah Site (V28)	Comment
End user market orientation	WBG existing industrialists, expatriate Palestinians, Israeli and International investors: Good location for this market – close to Jordan	WBG existing industrialists, Israeli investors and international investors	Possible joint venturing with the biggest Israeli Industrial Estate in West Bank, WBG existing industrialists, Israeli investors	Existing industrialists around Ramallah area, expatriate Palestinians.	Outcome: all sites attract similar investors as far as user markets; with the addition of access to Jordan in the cases of Fasayil and Jericho South sites.
Score:	5	4	4	4	
Functional relationship and integration	Potential to integrate many villages, very close to many Israeli settlements, close to Al Auja and Jericho	Potential to contribute to the development of Al Auja and Jericho area	Potential to integrate major cities such as Jericho, Jerusalem, Ramallah and Al Bira.	Location in between Ramallah and Beituniya, surrounded by residential areas, unlikely to add to integration of the region	Outcome: All sites have good functional relationships and integration qualities
Score:	4	4	4	3	

Evaluation Criterion	Fasayil Site (V10)	Auja North Site (V9)	Al-Khan Al-Ahmar Site (V12)	Ramallah Site (V28)	Comment
Infrastructure availability	<p>Water: 10km away from main source of water; MACAROT. Source available nearby, subject to Israeli agreement and well proving.</p> <p>Power: 100m away from high-tension lines (33kv, need to verify) source Israel Electricity Company.</p> <p>Wastewater: joint plant with Israeli settlements most likely scenario – beneficial to both sides.</p> <p>Solid waste: use municipal site in Auja or Jericho</p>	<p>Water: Possible connection to Israeli waterline</p> <p>Power: possible connection to Al Auja grid</p> <p>Wastewater: No information available</p> <p>Solid Waste: Possible usage of Al Auja municipal dump</p>	<p>Water: Possible connection to 8" Israeli waterline and reservoir</p> <p>Power: Possibility to use existing Israeli infrastructure</p> <p>Wastewater: Possibility to use existing Israeli infrastructure</p> <p>Solid Waste: No information available</p>	<p>Water: available from MACAROT</p> <p>Power: 33kV is available (need to verify)</p> <p>Wastewater: currently collected by the municipality, and dumped into the wadi without being treated</p> <p>Solid Waste: currently collected by trucks and dumped to a site where they are burned</p>	<p>Outcome: Water, electricity situation equal for all sites.</p> <p>All sites require provision of additional sewage treatment capacity and solid waste sites. Fasayil potentially has better access to infrastructure</p>
Score:	5	4	4	4	
Accessibility (people and goods)	Road access extremely good. Surrounded by a population of 800 living in the villages and close to Auja and Jericho.	2km. off the main road in north-south direction that connects to Jericho, close to Jordanian border.	Road access very good for both people and goods.	Area is accessible by people, potential negative impact on city traffic unless the road to outside of the city is enlarged.	Outcome: all sites have good accessibility

Evaluation Criterion	Fasayil Site (V10)	Auja North Site (V9)	Al-Khan Al-Ahmar Site (V12)	Ramallah Site (V28)	Comment
Score:	5	5	5	4	
Environmental impacts	Negative impacts can be mitigated. Area bordered by Mountains on two sides, and in between residential areas.	Possible negative impacts to surrounding agricultural areas should be studied.	Negative impacts can be mitigated.	Potential negative impacts on residential areas and to the cities.	Outcome: Ramallah area is environmentally highly sensitive
Score:	4	4	5	2	
Security concerns	Open area, easily policed and secured.	Good open area, could be easily policed and secured.	Needs security assessment.	Security issues need to be well addressed as area is in the city.	Outcome: No distinction except Qalqiliya North site is sensitive to strict security provision
Score:	4	5	4	4	
National development policy context	Not identified in the MOPIC draft regional plan. However, fits well with the concept of developing Jericho area.	Not identified in MOPIC draft regional plan.	Identified as industrial site of second priority in MOPIC draft regional plan.	Evaluated but not identified as one of the priority industrial sites in MOPIC draft regional plan.	Outcome: All sites are suitable for consideration as industrial sites except for Ramallah
Score:	4	4	5	3	
Conclusion: External Criteria	Good location that requires Israeli approval	External criteria positive	External criteria positive	Not a preferred location for industrial estate designation.	Outcome: all of the sites are potential industrial locations based on external criteria. In the case of Ramallah, however, decision must be made from an urban planning point of view

Evaluation Criterion	Fasayil Site (V10)	Auja North Site (V9)	Al-Khan Al-Ahmar Site (V12)	Ramallah Site (V28)	Comment
Weighted SubTotal Score for External Criteria:	2.23	2.14	2.23	1.64	

Table 4: Evaluation Matrix – Mid West Bank Sites -- Internal Criteria

Evaluation Criterion	Qalqiliya North Site (V20)	Qalqiliya East Site (V21)	Beit Sira Site (V27)	Mikhmas Site (V13)
Suitability of terrain – slope, shape, configuration	Rocky terrain (possibly dolomite and limestone), rectangular shaped, greenhouses and plantation need to be removed	Rocky terrain (possibly dolomite and limestone), citrus trees need to be removed	Flat open area by the foot of the hills used for agriculture.	Rocky and sloped terrain, no definite shape, needs to be configured
Score:	3	3	5	3
Site area and potential for expansion	Approx. 150ha, phased development is possible.	Total area approx. 50ha, phased development possible.	Very large land, about 100ha to 150ha. Possibility of expansion to “no man’s land” is unknown	Approx. 150 ha with possible expansion to 200ha.
Score:	5	5	5	5
Land ownership and availability	Privately owned land used for agricultural purposes	About 50 dunums owned by the Government, 12 dunums by the Municipality, rest is privately owned.	No information available.	No information available
Score:	3	4	3	3
Environmental Impacts	Impacts should be considered, close to populated areas.	Same as Qalqiliya North Site	Impacts should be considered, close to agricultural and populated areas.	Environmental impact on the olive trees behind the area and the Ramun settlement should be considered.
Score:	4	5	4	4

Evaluation Criterion	Qalqiliya North Site (V20)	Qalqiliya East Site (V21)	Beit Sira Site (V27)	Mikhmas Site (V13)
Initial and long-term availability of services	Services could be brought to site with ease	Services could be brought to site with ease	Available	Distant from required infrastructure
Score:	4	4	5	3
Conclusions: Internal Criteria	Good alternative site (to South of Qalqiliya) – opportunity cost of agriculture and removal cost of existing greenhouses and plantations must be considered.	Good alternative site (to South of Qalqiliya) – opportunity cost of agriculture and removal cost of existing greenhouses and plantations must be considered.	Good site based on internal criteria	Site should not be prioritized for industrial development, according to internal criteria
Weighted SubTotal Score for Internal Criteria:	1.90	2.02	2.19	1.71

Table 4 continued: Evaluation Matrix – Mid West Bank Sites -- Internal Criteria

Evaluation Criterion	Jericho South Site (V11)	Deir Hajla Site (V6)	Jericho North Site (V7)	Auja South Site (V8)
Suitability of terrain – slope, shape, configuration	Terrain very suitable, mostly clayey and silty soil. Rectangular shaped area.	Very suitable terrain, almost zero slope, rectangular shaped area.	Suitable terrain, almost flat	Suitable terrain, almost flat
Score:	5	5	5	5
Site area and potential for expansion	Approx. 750ha currently partially used for greenhousing, but land configuration might reduce development efficiency.	Approximately 200ha available with possible expansion.	Approximately 3000ha land available which means expansion is possible	Approximately 3000ha land available which is available for expansion
Score:	5	5	5	5
Land ownership and availability	Privately owned and Ministry of Religious Affairs (Waqf) owned land (need to verify)	Area told to belong to Ministry of Religious Affairs (Waqf), (need to verify). Some Bedouin settlements in the area. Some irrigated agricultural areas.	Area told to belong to Ministry of Religious Affairs (Waqf), (need to verify). Some of the area is privately owned.	Area told to belong to Ministry of Religious Affairs (Waqf), need to verify.
Score:	4	5	4	5
Environmental Impacts	Impacts can be mitigated	Impacts can be mitigated.	Strong winds in North-South direction. Negative impacts should be studied.	Impacts should be studied, environmentally sensitive area.
Score:	5	5	5	3
Initial and long-term availability of services	Services could be brought to site with ease	Services could be brought to site with ease	Services could be brought to site with ease	Services could be brought to site with ease

Evaluation Criterion	Jericho South Site (V11)	Deir Hajla Site (V6)	Jericho North Site (V7)	Auja South Site (V8)
Score:	4	4	4	4
Conclusions: Internal Criteria	Good site –based on internal criteria	Good site – a bit further away from the main roads compared to other locations around Jericho	Good site – surrounded with many agricultural areas.	Good site between Jericho and Auja with a lot of open space
Weighted SubTotal Score for External Criteria:	2.26	2.38	2.19	2.24

Table 4 continued: Evaluation Matrix – Mid West Bank Sites -- Internal Criteria

Evaluation Criterion	Fasayil Site (V10)	North of Auja Site (V9)	Al-Khan Al-Ahmar Site (V12)	Ramallah Site (V28)	Comment
Suitability of terrain – slope, shape, configuration	Terrain very suitable almost flat.	Terrain very suitable, almost flat. Rectangular area.	Hilly terrain not very flat, requiring some ground work.	Unsuitable hilly terrain, increasing construction cost	Outcome: all sites terrain suitable except Ramallah and Qalqiliya sites have difficult conditions
Score:	5	5	4	3	
Site area and potential for expansion	Approx. 1600ha with potential for expansion and possibly residential development	Approximately 3500ha, agricultural land to the north and south of area, and archeological area to the south of the area	Limited area for expansion, details need to be worked by the adjacent Israeli industrial estate.	About 90ha in southwest of the city with limited potential for expansion	Outcome: All sites have very large sizes except Al-Khan Al-Ahmar is unknown and Ramallah is limited.
Score:	5	4	3	4	
Land ownership and availability	Being farmed if there is a rainy season. Owned by the Ministry of Housing (need to verify)	No information available	No information available	Privately owned parcels	Outcome: Sites around Jericho city offer advantage of land owned by Ministry of Religious Affairs.
Score:	5	3	3	3	

Evaluation Criterion	Fasayil Site (V10)	North of Auja Site (V9)	Al-Khan Al-Ahmar Site (V12)	Ramallah Site (V28)	Comment
Environmental Impacts	Impacts can be mitigated	Impacts can be mitigated	Impacts can be mitigated.	Potential negative impacts for residential areas.	Outcome: Each site can be protected environmentally, however Ramallah site is environmentally very sensitive; cost implications.
Score:	5	5	5	3	
Initial and long-term availability of services	Available	Services could be brought to site with ease	Available	Available	Outcome: no distinction. Beit Sira, Ramallah, Fasayil and Al-Khan Al-Ahmar have cheaper and easier access to services
Score:	5	4	5	5	
Conclusions: Internal Criteria	Good site – major concern is approval of Israeli authorities.	Suitable site – in between Israeli agricultural plantation areas.	Suitable site – joint venturing with/approval of Israelis could be an issue	Not a suitable location for industrial estate designation.	Outcome: the Fasayil site as a high priority for further investigation. The Deir Hajla site also has the qualities needed for development
Weighted SubTotal Score for External Criteria:	2.43	2.07	2.00	1.81	

Table 5: Evaluation Matrix – Southern West Bank Sites -- External Criteria

Evaluation Criterion	Arab al Fureijat Site (V16)	Somara Site (V17)	Qinan Jaber Site (V15)	Al Deirat Site (V14)
End user market orientation	Could be attractive for WBG existing industrialists, expatriate Palestinians, and Israeli investors. Good location for this market – close to Southern Israel	Same as Arab al Fureijat	Same as Arab al Fureijat	Same as Arab al Fureijat
Score:	5	5	5	5
Functional relationship and integration	Good location at the border of green line close to the Israeli city of and the main highway, but about 20km away from Hebron.	Very close to Adh Dahriyya and 3.7km away from the main road.	Fair location with respect to functional relationship and integration surrounded by a couple of villages.	A bit far from major roads, but around populated areas such as Yatta (45,000), Bani Naim (35,000), Zif (1500), Hebron (120,000) and villages around (20,000).
Score:	5	4	3	4

Evaluation Criterion	Arab al Fureijat Site (V16)	Somara Site (V17)	Qinan Jaber Site (V15)	Al Deirat Site (V14)
Infrastructure availability	<p>Water: possible connection to Israeli waterline and reservoir, 2km away (need to verify)</p> <p>Power: possible connection to Israeli sources, 2km away (need to verify)</p> <p>Wastewater: possible connection to Israeli sources</p> <p>Solid waste: no information available</p>	<p>Water: existing 4" Palestinian waterline</p> <p>Power will require connection to IEC.</p> <p>Sewage treatment: need to be built on site.</p> <p>Solid waste: need to be addressed.</p>	<p>Water: possible connection to 6" Palestinian waterline.</p> <p>Power: could be connected to the line feeding Qinan Jaber village</p> <p>Sewage treatment plant to be provided</p> <p>Solid Waste: No information available</p>	<p>Water: existing 2" waterline, possibility of connection to 8" Israeli waterline and reservoir</p> <p>Power: will require a connection to IEC lines going to Al Karmil Israeli Settlement.</p> <p>Sewage treatment: onsite pre-treatment required</p> <p>Solid waste: Municipal dump yard just beside the area.</p>
Score:	4	3	3	4
Accessibility (people and goods)	Not far away from the main road, and 1km away from the green line. 32km. To Hebron and 10km to Adh Dhahiriya.	Road access not very good as it goes through Adh Dhahiriya. Distance to main road is 3.7km	Road access needs to be improved 1.3km away from the main road.	Road access needs to be improved. 10km away from the main highway (road #60).
Score:	5	3	3	3
Environmental impacts	Negative impacts can be mitigated.	Negative impacts can be mitigated, location at a hill top	Environmental impacts should be assessed carefully as the location is very close to the village, and there are olive and almond plantations.	Negative impacts can be mitigated.
Score:	5	5	4	5

Evaluation Criterion	Arab al Fureijat Site (V16)	Somara Site (V17)	Qinan Jaber Site (V15)	Al Deirat Site (V14)
Security concerns	Good open area, special security concerns should be issued as site is close to the green line.	No special security concerns	No special security concerns	Good open area, easily policed and secured.
Score:	4	5	5	5
National development policy context	Not identified in MOPIC draft regional plan, however it carries strategic importance in the development of South of West Bank.	Not identified in MOPIC draft regional plan.	Not identified in MOPIC draft regional plan.	Not identified in MOPIC draft regional plan.
Score:	5	4	4	4
Conclusion: External Criteria	Good location for industrial development.	Fair location as it stands now, could prove valuable if road connection is enhanced.	Location is not very attractive from a regional development and integration context	Location is not very attractive from a regional development and integration context
Weighted SubTotal Score for External Criteria:	2.36	1.97	1.84	2.06

Table 5 continued: Evaluation Matrix – Southern West Bank Sites -- External Criteria

Evaluation Criterion	Tarqumiya Site (V18)	Qilqis Site (V1)	Beit Fajjar Site (V2)	Kisan Site (V3)
End user market orientation	WBG existing industrialists, expatriate Palestinians, Israeli and International investors: Good location at the border of green line, very quick access to Hebron and Bethlehem, good connection to the Israeli cities of Ashdod and Ashkelon.	Existing industrialists in Hebron area, expatriate Palestinians are envisioned	Mostly for local marble and stone industry that is located in the area (160 factories in Beit Fajjar) and also in Bethlehem (100 factories).	WBG existing industrialists, expatriate Palestinians, Israeli and International investors
Score:	5	4	4	4
Functional relationship and integration	Potential to contribute to the economic integration of the surrounding area, and plays an important role as located at the Secure Passage to Gaza.	Close to Hebron, which is an economic power for West Bank. Good location with respect to urban areas – Hebron, Qalqas, Yatta and major transport corridors to Israel.	Half way between Bethlehem and Hebron and good location with respect to major transport corridors.	Due its relative far location from other populated areas, has small potential to contribute to regional integration
Score:	5	5	4	3

Evaluation Criterion	Tarqumiya Site (V18)	Qilqis Site (V1)	Beit Fajjar Site (V2)	Kisan Site (V3)
Infrastructure availability	<p>Water: closest possible water connection is 8km away to a 4" pipeline</p> <p>Power: No information available</p> <p>Wastewater: No information available</p> <p>Solid waste: Need to be addressed.</p>	<p>Water: available through connection to the Hebron city network or from Israeli authorities</p> <p>Power: 1km away from 33kV lines owned by Hebron Municipality, and 500m away from IEC lines.</p> <p>Sewage treatment: needs to be connected to Hebron city network.</p> <p>Similarly for solid waste.</p>	<p>Water: supply available, but not proven</p> <p>Available Power needs to be increased to 20 Megawatts for factories, nearest power line is 4km away.</p> <p>Sewage treatment plant to be provided</p> <p>Solid Waste need to be provided</p>	<p>Water: possible connection to 16" Israeli waterline</p> <p>Power will require a connection to IEC.</p> <p>Sewage treatment: will need to be provided</p> <p>Solid waste – not known.</p>
Score:	3	4	3	4
Accessibility (people and goods)	Road access very good. Close to a major center of population; Hebron.	Road access very good. Very close to Road no:60 (the main highway that runs north-south direction through West Bank. Labor force is available.	Road access is not very good. Need for better roads and connections to existing roads. Right by the village of Beit Fajjar and other villages.	Road access not very good. Distant from major roads.
Score:	5	5	3	4
Environmental impacts	Need to be studied.	Negative impacts can be mitigated.	Need for a detailed Environmental Impact Assessment, possible negative impacts.	Impacts can be mitigated
Score:	4	5	3	5

Evaluation Criterion	Tarqumiya Site (V18)	Qilqis Site (V1)	Beit Fajjar Site (V2)	Kisan Site (V3)
Security concerns	Border area, security implications need to be assessed.	The area is very close to Israeli settlement. Security implications will need to be assessed.	Difficult area to control, security concerns.	Could be secured.
Score:	4	4	4	5
National development policy context	Another site in Tarqumiya is identified as an industrial site of second priority in MOPIC draft regional plan. Important location on the Secure Passage to Gaza.	Not identified in MOPIC draft regional plan.	Not identified in MOPIC draft regional plan.	Not identified in MOPIC draft regional plan.
Score:	5	4	4	4
Conclusion: External Criteria	External criteria positive	External criteria positive, needs detailed feasibility analysis to determine whether the project is feasible or not.	External criteria neutral, needs a detailed EIA.	External criteria positive
Weighted SubTotal Score for External Criteria:	2.22	2.22	1.77	2.02

Table 5 continued: Evaluation Matrix – Southern West Bank Sites -- External Criteria

Evaluation Criterion	Husan Site (V4)	Beit Sahur Site (V5)	Comment
End user market orientation	WBG existing industrialists, expatriate Palestinians, Israeli and International investors: Good location for this market – close to Southern Israel	WBG existing industrialists, expatriate Palestinians, Israeli and International investors	Outcome: all sites are attractive for similar investors except for border sites offering advantages of access to Israel
Score:	5	4	
Functional relationship and integration	The site is at the green line border and very close to Bethlehem, however unlikely to contribute development of the region	Not close to any urban center and far away from the main roads.	Outcome: Al Deirat, Kisan and Beit Sahur have less of a potential to contribute to regional integration
Score:	4	3	
Infrastructure availability	Water: existing 4" Palestinian waterline Power: possible connection from Husan village Wastewater: possible connection from Husan village Solid waste: No information	Water: available, possible connection to 10" waterline feeding Bethlehem Power: Easily accessible to Bethlehem grid Sewage treatment: Existing small wastewater treatment facility Solid waste: No information	Outcome: Water, electricity situation equal for all sites. All sites require provision of additional sewage treatment capacity and solid waste sites, with the exception of Beit Sahur which has a small facility for waste water treatment.
Score:	4	4	
Accessibility (people and goods)	Road access very good. Close to a center of population.	Road access not very good during rush hours.	Outcome: road access is a distinctive criterion among the sites. Husan, Tarqumiya, Qilqis, and Arab Fureijat have good accessibility.

Evaluation Criterion	Husan Site (V4)	Beit Sahur Site (V5)	Comment
Score:	5	4	
Environmental impacts	Negative impacts can be mitigated. Restricted industry access.	Environmentally sensitive area located very close to the city	Outcome: Beit Sahur, Beit Fajar and Husan are environmentally sensitive sites.
Score:	4	3	
Security concerns	Border area, will require security measures	Security could be provided.	Outcome: Close to border sites require strict security measures.
Score:	4	5	
National development policy context	Not identified in MOPIC draft regional plan.	Not identified in MOPIC draft regional plan.	Outcome: Although none of the sites have been identified in the MOPIC plan, Arab Fureijat has capacity to impact development of South of West Bank.
Score:	4	4	
Conclusion: External Criteria	Not a preferred location for industrial development.	Fair location based on the external criteria.	Arab Al Fureijat & Qilqis are preferred sites based on external criteria.
Weighted SubTotal Score for External Criteria:	2.14	1.92	

Table 6: Evaluation Matrix – Southern West Bank Sites -- Internal Criteria

Evaluation Criterion	Arab al Fureijat Site (V16)	Somara Site (V17)	Qinan Jaber Site (V15)	Al Deirat Site (V14)
Suitability of terrain – slope, shape, configuration	Terrain very suitable, open area with 2-8% slope, at times flat.	Slightly uneven terrain, rectangular shaped.	Suitable terrain for construction with very little slope.	Fairly flat area with a slope of around 5-10%, rectangular shaped.
Score:	5	4	5	5
Site area and potential for expansion	Very large open area, approx. 200ha, currently used for agricultural purposes depending on rain.	Two potential sites with sizes of 42ha and 36ha with limited expansion.	Small site, size about 20ha. With little room for expansion.	Medium size site – 40ha. with possibility of expansion. Currently used by Bedouin people to plant for animal feed.
Score:	5	4	3	4
Land ownership and availability	Being farmed if there is a rainy season, Bedouin settlements scattered around the area. Potential for great agricultural area if irrigated, the opportunity cost must be calculated.	Being farmed in rainy season, privately owned land.	No information on land available.	Privately owned land.
Score:	3	3	3	3
Environmental Impacts	Impacts can be mitigated.	Impacts should be studied to avoid negative implications to the agricultural areas.	Opportunity cost of industrial use of olive grove needs to be assessed. Environmental concerns could imply use for light industry only.	Open area, negative impacts to environment could be mitigated.
Score:	5	3	3	3

Evaluation Criterion	Arab al Fureijat Site (V16)	Somara Site (V17)	Qinan Jaber Site (V15)	Al Deirat Site (V14)
Initial and long-term availability of services	Could be brought to site with ease	Could be brought to site with ease	Bringing services to site could be expensive	Could be brought to site with ease
Score:	4	4	3	4
Conclusions: Internal Criteria	Good site presenting cooperation with and good access to Israel—major concern is approval of Israeli authorities.	Fair site – concerns are ownership, and road connection.	Fair site - If the road construction gets completed, could prove a good location for light industries.	Fair site based on internal criteria, however, need to expand existing roads and bring in infrastructure, at a hidden location.
Weighted SubTotal Score for Internal Criteria:	2.14	1.81	1.74	1.93

Table 6 continued: Evaluation Matrix – Southern West Bank Sites -- Internal Criteria

Evaluation Criterion	Tarqumiya Site (V18)	Qilqis Site (V1)	Beit Fajjar Site (V2)	Kisan Site (V3)
Suitability of terrain – slope, shape, configuration	Some flat and open area by the foot of the hills, terrain suitable. small width/length ratio could imply reduction of development efficiency	Terrain is not suitable. The rectangular shaped area has a “V” cross-section with slopes on both sides of about 30%. Area consists of two hills and the valley in between. Stepped construction is planned.	Terrain unsuitable and imposing a large development cost. Raw material for marble and stone industry is available. Hill area with about 30% slope.	Flat, suitable terrain.
Score:	3	3	3	5
Site area and potential for expansion	Approx. 45ha, limited potential for expansion	Initial plan for 30ha, with expansion to 50ha.	Expansion requires additional site work that could impose an additional burden on the developer.	Expansion requires additional site work that could impose an additional burden on the developer.
Score:	4	4	4	4
Land ownership and availability	Privately owned (need to verify)	Owned by a private development company who is trying to implement an industrial estate project	Privately owned land.	Private ownership
Score:	3	4	3	3
Environmental Impacts	Impacts needs to be assessed	To be assessed	Need for detailed Environmental Impact Assessment to mitigate negative impacts.	Impacts needs to be assessed

Evaluation Criterion	Tarqumiya Site (V18)	Qilqis Site (V1)	Beit Fajjar Site (V2)	Kisan Site (V3)
Score:	4	4	4	4
Initial and long-term availability of services	Services could be brought to site with ease	Services could be brought to site with ease	Services could be brought to site with ease	Services could be brought to site with ease
Score:	4	4	4	4
Conclusions: Internal Criteria	Fair site based on internal criteria	Terrain makes site development expensive. This might make commercial feasibility difficult. Major concerns are unsuitability of land and development cost.	Terrain makes site development expensive. This makes commercial feasibility difficult. Environmental concerns due to type of industry.	Good site based on internal criteria
Weighted SubTotal Score for External Criteria:	1.76	1.88	1.76	2.00

Table 6 continued: Evaluation Matrix – Southern West Bank Sites -- Internal Criteria

Evaluation Criterion	Husan Site (V4)	Beit Sahur Site (V5)	Comment
Suitability of terrain – slope, shape, configuration	Rocky terrain with some slope	Suitable terrain, narrow area with low width/length ratio which will increase development cost	Outcome: all sites have suitable terrain except for Qilqis, Beit Fajjar and Husan
Score:	3	4	
Site area and potential for expansion	Approximately 70ha with limited expansion possibility	Approximately 140 ha with expansion possibility	Outcome: Arab Fureijat, Husan and Beit Sahur offer larger sites for development
Score:	5	5	
Land ownership and availability	Privately owned	Privately owned	Outcome: Only BeitKhagai is owned by a private development company others are privately owned.
Score:	3	3	
Environmental Impacts	Environmentally sensitive area, very close to Husan village, limited industry access to this site	Environmentally sensitive, very close to the urban area, limited industry access to the site	Outcome: Each site can be protected environmentally, however Husan and Beit Fajjar are environmentally sensitive sites
Score:	3	3	
Initial and long-term availability of services	Services could be brought to site with ease	Available	Outcome: Beit Sahur site offers better access to services.
Score:	4	5	

Evaluation Criterion	Husan Site (V4)	Beit Sahur Site (V5)	Comment
Conclusions: Internal Criteria	Not a preferred site for industrial development, base don the internal criteria	Shape of site makes site development expensive. The area is environmentally sensitive. Restricted industry access.	Outcome: internal criteria place the Beit Sahur site at a premium for specialist development, and the Arab Fureijat site as a high priority for further investigation.
Weighted SubTotal Score for External Criteria:	1.76	2.00	

Table 7: Evaluation Matrix – Gaza Sites -- External Criteria

Evaluation Criterion	Rafah Site (V30)	Deir al-Balah Site (V29)	Comment
End user market orientation	WBG existing industrialists, Israeli and International investors, attractive for investors interested in overseas markets	WBG existing industrialists, Israeli investors.	Outcome: Rafah offers the additional advantage of access to international airport
Score:	5	4	
Functional relationship and integration	Location at south of Gaza by border of green line close to Rafah, Khan Yunis and the Israeli city of Be'er Sheva and Egypt, likely to contribute to integration of the region	Central location in Gaza close to Deir al Balah, Al Bureij, Mughazi and Nuseirat. likely to contribute to integration of the region	Outcome: Both sites have good functional relationships and integration qualities
Score:	5	5	
Infrastructure availability	<p>Water: only brackish water is available, possibility of obtaining water from MACAROT.</p> <p>Power: Three transformers are available on the Israeli side (22/161kv), 11 lines come into Gaza from this location</p> <p>Wastewater: No information available</p> <p>Solid waste: Need to be addressed</p>	<p>Water: only brackish water is available</p> <p>Power: Currently a single 22kv line from Israeli side</p> <p>Wastewater: No information available</p> <p>Solid waste: Could be dumped at the nearby municipal dumpyard</p>	<p>Outcome: electricity situation equal for all sites.</p> <p>Both sites require provision of additional sewage treatment capacity and solid waste sites.</p> <p>Rafah site has better access to infrastructure</p>
Score:	5	4	

Evaluation Criterion	Rafah Site (V30)	Deir al-Balah Site (V29)	Comment
Accessibility (people and goods)	Good accessibility through roads #4 and #10. Border point is operational. Airport is a major advantage.	Location only 2.5km away from Road#4 that runs in north-south direction, labor force of 15,000 people around the area. Border point is not operational.	Outcome: Rafah has better access to goods with additional advantage of airport.
Score:	5	3	
Environmental impacts	Negative impacts can be mitigated.	Negative impacts can be mitigated.	Outcome: No distinction
Score:	5	5	
Security concerns	Area by the airport and the border, security issues should be addressed.	Area by the border line, security concerns to be addressed.	Outcome: No distinction
Score:	4	4	
National development policy context	Designated as an industrial zone by Ministry of Industry.	Not identified in MOPIC draft regional plan.	Outcome: Existing plan in Rafah for an Industrial Area displays better fit to national development context.
Score:	5	5	
Conclusion: External Criteria	Good location for industrial development.	External criteria positive.	Outcome: Rafah site is a more preferred site when compared to Deir al Balah
Weighted SubTotal Score for External Criteria:	2.45	2.13	

Table 8: Evaluation Matrix – Gaza Sites -- Internal Criteria

Evaluation Criterion	Rafah Site (V30)	Deir al-Balah Site (V29)	Comment
Suitability of terrain – slope, shape, configuration	Terrain suitable, mostly planted area, almond trees, etc.	Not a flat site with some trees and plantation, loess and silty loess material, need to flatten the area will add to the construction cost	Outcome: Rafah site has a more suitable terrain for development
Score:	4	3	
Site area and potential for expansion	Approx. 270 ha planned for industrial usage	Very large area (about 100ha)	Outcome: No distinction
Score:	5	5	
Land ownership and availability	Privately owned	Land owned by a few privately families	Outcome: No distinction
Score:	3	3	
Environmental Impacts	Impacts can be mitigated	Impacts could be mitigated	Outcome: Each site can be protected environmentally.
Score:	5	5	

Evaluation Criterion	Rafah Site (V30)	Deir al-Balah Site (V29)	Comment
Initial and long-term availability of services	Available	Services could be brought to site with ease	Outcome: Rafah has better access to services
Score:	5	4	
Conclusions: Internal Criteria	Good site – major concern is approval of Israeli authorities.	Fair site based on the internal criteria.	Outcome: Rafah is a better choice for industrial sites in Gaza.
Weighted SubTotal Score for Internal Criteria:	2.14	1.9	

3.5 Ranking Results

This section presents the results of ranking based on the methodology described in Section 3.4.

It is very important to note that the following evaluation does in no means represent a final ranking of the sites, and its findings are subject to change depending on future and more detailed work necessary for a more thorough evaluation of the sites.

Based on the findings outlined and the scoring presented in Tables 1 to 6 above, the final results of site ranking are as follows:

Table 7: Technical Ranking of Visited Sites for Potential IE/FZ Development

	SITES	WEIGHTED AVERAGES		TOTAL SCORE
		External Criteria	Internal Criteria	
FIRST TIER	Al Masudiya (V19)	2.40	2.43	4.83
	Jericho South (V11)	2.41	2.26	4.67
	Fasayil (V10)	2.23	2.43	4.66
	Rafah (V30)	2.45	2.14	4.59
	Deir Hajla (V6)	2.15	2.38	4.53
	Al Aqrabaniya (V22)	2.31	2.19	4.50
	Arab al Fureijat (V16)	2.36	2.14	4.50
	Beit Sira (V27)	2.31	2.19	4.50
SECOND TIER	Auja South (V8)	2.14	2.24	4.38
	Qalqiliya East (V21)	2.32	2.02	4.33
	Jericho North (V7)	2.05	2.19	4.24
	Al-Khan Al-Ahmar (V12)	2.23	2.00	4.23
	Auja North (V9)	2.14	2.07	4.21
	Qalqiliya North (V20)	2.22	1.90	4.12
	Qilqis (V1)	2.22	1.88	4.10
	Deir al Balah (V29)	2.13	1.90	4.03
	Kisan (V3)	2.02	2.00	4.02
THIRD TIER	Al Deirat (V14)	2.06	1.93	3.99
	Tarqumiya (V18)	2.22	1.76	3.98
	Aggaba (V23)	1.96	2.00	3.96
	Al-Zababida (V25)	1.96	2.00	3.96
	Sanur (V26)	1.87	2.07	3.94
	Beit Sahur (V5)	1.92	2.00	3.92
	Husan (V4)	2.14	1.76	3.90
	Kufeir (V24)	1.96	1.93	3.89
	Mikhmas (V13)	2.08	1.71	3.79
	Somara (V17)	1.97	1.81	3.78
	Qinan Jaber (V15)	1.84	1.74	3.58
	Beit Fajjar (V2)	1.77	1.76	3.53
	Ramallah (V28)	1.73	1.81	3.45

Due to the large number of sites the ranking is grouped in a three tiered system. The first tier consists of the sites with higher potential among all visited sites. The second tier comprises of the sites less likely to be candidates for good industrial estate locations. The third tier is a group of sites that are not as attractive for industrial estate development, in this phase of industrial development in the West Bank.

The following tables present the highest scoring sites in each governorate in the West Bank and Gaza.

Table 8: Visited Sites ranked by Governorates:

	Governorates	First Site	Second Site	Third Site	Fourth Site	Fifth Site	Sixth Site
WEST BANK	Jenin	Aggaba	Al-Zababida	Sanur	Kufeir		
	Tulkarem	Qalqiliya East	Qalqiliya North				
	Nablus	Al Masudiya	Al Aqrabaniya				
	Jericho	Jericho South	Fasayil	Deir Hajla	Auja South	Jericho North	Auja North
	Ramallah/Al Bire	Beit Sira	Mikhmas	Ramallah			
	Jerusalem	Al Khan Al Ahmar					
	Bethlehem	Kisan	Beit Sahur	Husan	Beit Fajar		
	Hebron	Arab al Fureijat	Qilqis	Al Deirat	Tarqumiya	Somara	Qinan Jaber
	GAZA	Rafah	Deir Al Balah				

Summary Discussion of First Tier Sites

The following discussion provides a brief assessment of each of the sites that are within the First Tier:

Al Masudiya

Al Masudiya site, also known as Deir Sharaf, is the next new opportunity that should be examined in addition to the Qalqiliya Site¹ that was identified by the TSG February 1999 Site Assessment Report. Al Masudiya is a strategically positioned area between the main West Bank cities of Tulkarm, Nablus, Jenin and Qalqiliya. The existing road connections provide the additional advantages of accessibility and reduction of costs of development. Furthermore the land is partially owned by the Ministry of Housing, and part of it is designated as Zone A. The terrain is suitable for development, and currently used for agricultural purposes.

Jericho South

This is another strategically well positioned site that is at the crossroads of the highway connecting Jerusalem to Jordan and the highway that runs in north-south direction at the very east of the West Bank. There is possibility for future expansion. The local government agencies have raised concerns about the site being at the entrance of Jericho City which is known as a tourist attraction. These concerns could be addressed by proper selection of industries and design of physical facilities. Area falls within "Zone A" classification.

Fasayil

Although a bit far from major Palestinian localities, this site offers the advantages of low development cost, possibility for expansion, and closeness to existing infrastructure. However, approval of Israeli authorities is required for the site and the utilities to be connected to service the site.

¹ Although not included in the ranking performed by this study, Qalqiliya site's location on the green line with excellent road access, the proximity to the town and the strong backing of the municipality suggest that this site be considered among the first tier sites and it is worth investigating.

Rafah	Rafah site enjoys the additional advantage of being right next to Rafah International Airport. Although the terrain is suitable for industrial estate development, there will be the additional cost of removal of existing plants and trees. The question for Rafah is more of a policy question, whether an investment should be made for a second industrial estate in Gaza or not.
Deir Hajla	This site offers a second alternative in Jericho area to the Jericho South site. This location also has potential for good transportation connections if a connecting road were to be built to link the site with the existing transportation network, and most of the site falls in "Zone A".
Al Aqrabaniya	This location to the north of Nablus has a good road connection to Jordan. If the planned highway from Nablus to Jenin realizes the strategic advantage of the site will be increased. It is a flat piece of land currently used for agricultural purposes and the ownership is private.
Arab Al Fureijat	This location to the far south of the West Bank offers possibility of joint operations with the Israeli investors. It is a very large area with expansion opportunities. The terrain is suitable for construction, however the land is privately owned. The location offers easy access to those investors who would target Israeli market for their production.
Beit Sira	High accessibility is one of the advantages this site has to offer besides others such as suitable terrain and easy access to infrastructure. Although a technically preferred location for industrial estate development, this site, located very close to Ramallah, falls inside the area designated as "no man's land", which suggests possible complications in obtaining approval for the site as an industrial estate. Another location with potential for establishment of an industrial estate in this area is Al-Latrun, located about 10km. east of this location possessing very similar characteristics.

Summary Discussion of Second Tier Sites

Qalqiliya North & East	Although Qalqiliya North and East sites are included in the second tier, the first site in Qalqiliya (to the south of the city) assessed in the previous study (by TSG) should be considered to be among the first tier sites for industrial estate development.
Jericho North & Auja South	These two sites were visited as alternative sites to Jericho South and Deir Hajla sites. However, the assessment indicated that they were not as attractive locations as the former mentioned sites.
Al-Khan Al-Ahmar	Al-Khan Al-Ahmar site, proposed by the Ministry of Planning and International Cooperation, is right next to the Israeli industrial estate and whether this land is within the expansion plans of the Mishor Adumim Industrial Estate or not is not verified.
Auja North	Auja North site has very desirable site conditions and next to the highway, however there are issues such as the ownership of land and being surrounded by agricultural and archeological areas.
Qilqis	This site is owned by a private development company and the firm is seeking Israeli authority to start development. Although ownership of the area by the company is the driving factor in the firm's decision, the site is not suitable for cost effective construction of an industrial estate and the assumptions and forecasts by the developer should be reviewed.
Kisan	Proposed as a possible location by the local authorities, this site is located away from the major road connections causing accessibility to be an issue. Besides, the terrain has the potential to increase the cost of construction.
Deir al Balah	Deir al Balah site is at a central location in Gaza surrounded by many localities ready to supply the labor force, however when compared to other possibilities in Gaza, the site characteristics of Deir al Balah remain less desirable.

Summary Discussion of Third Tier Sites

Al Deirat	Initial and long term of infrastructure services and accessibility of the area by labor and goods are the factors that shadow the desirability of this site with good characteristics for industrial estate development.
Tarqumiya	The site visited in Tarqumiya just outside the border had very difficult site conditions for construction. Since the checkpoint was said to be moved ahead of the green line and the location of the site identified previously by MOPIC was unclear, the consultant visited the area behind the checkpoint as well. It was seen that the size of the suitable land for development was very small with no room for expansion.
Sanur & Aggaba	Although they have the desired site characteristics and potential, Sanur and Aggaba sites are grouped in this tier due to the road enhancement necessary to provide the desired accessibility to those sites.
Al-Zababida and Kufeir	These two sites, which are very close to one another, are not selected to be priority sites as they suffer from lack of good road connectivity and accessibility. However, they have the potential to be a good location for environment friendly industries as they have suitable terrain for development and are nearby residential areas.
Somara	There are two sites in Somara very close to each other, but the attractiveness of the site is shadowed by the lack of good transportation linkage to the main highways.
Husan	Husan is another location by the green line. The area between the green line and Husan village is assessed and not found to be a good site for industrial estate development due to its unsuitable terrain with varying slopes and limited expansion capacity.
Beit Sahur	The site is along a small valley that falls within the municipal

Mikhmas	<p>borders of Bethlehem. It is a possible location for small and light industries, but has limited potential for expansion.</p> <p>Located between Ramallah and Jerusalem, this site enjoys the potential to contribute to the regional development context of the area. Although it enjoys a close to populated areas, environmental concerns and rough terrain decrease its attractiveness as a potential candidate for industrial development.</p>
Qinan Jaber	<p>Although it has the advantage to offer a considerable pool of labor due to its location between Al Muntar, Al Karmil and As Samu, this site is distant from the main transportation network.</p>
Beit Fajjar	<p>The suggested site in Beit Fajjar for stone and marble industry originates from poor or no planning that yielded in an unorganized and environmentally unfriendly location. However, the site terrain is not one that is desired for cost effective development of an industrial estate and new locations should be identified keeping in mind the specific needs and requirements of this industry.</p>
Ramallah	<p>This site poses a special case of urban planning, as there are existing industrial establishments on site. However, the site characteristics are not suitable for development of an industrial estate and the future of the site remains as a policy issue. The location of the site between two densely populated areas, Ramallah and Beituniya, further complicates the situation. The question in this case is not whether this site has the desired characteristics to develop a modern industrial estate, but is a question of whether this area should be designated with an industrial estate status or not.</p>

4. Next Steps

4.1 Recommendations

In order to apply the resources of the TSG-SITE project to the objective of encouraging the establishment of a new industrial estate in the West Bank and Gaza, it is recommended that:

A further two weeks long site visit be made by a TSG Free Zones and Industrial Estates expert to the West Bank to carry out an in depth analysis of the selected first tier sites with the objectives of:

1. Visiting three selected sites (to be discussed with USAID and PIEFZA) that ranked among the First Tier of the Site Sweep Study within the West Bank and Gaza and gather detailed information relevant to their suitability for potential IE/FZ development. Factors to be considered in more detail, which will affect the timing and cost of a future industrial estate, will contain:
 - Land Ownership
 - Administrative Zoning and likely designation in future
 - Geotechnical aspects
 - Environmental aspects
 - Availability of infrastructure services
 - Outcome of the Investor Targeting Strategy for Industrial Estates in West Bank and Gaza
2. Drafting the Terms of Reference for undertaking a comprehensive feasibility study for the highest ranked site as a result of this prefeasibility study.

It is also recommended that the Industrial Estates expert be accompanied by a geotechnical engineer and an environmental consultant. The geotechnical engineer will address the issue of the soil conditions at the preferred sites, and the environmental consultant will provide a similar assessment of the same sites. He will also advise on the environmental aspects of the terms of

reference for the feasibility studies, and take an initial look at environmental control systems as they will apply to industrial estates and Free Zones in West Bank/Gaza.

ANNEX 1

ANNEX 2

Terms of Reference

TSG Project No.:	431
USAID Contract No.:	294-C-00-98-00110-00
Component:	IE/FZ Feasibility Studies
Activity:	<u>Comprehensive Assessment of Industrial Estate Sites in The West Bank</u>
PIEFZA Counterparts:	Dr. Abdul Malik Al Jaber, Executive Director
Project Manager:	Dr. Minor Vargas, Project Director & PIEFZA Advisor

Background

Industrial production in the West Bank is, in general, fragmented and poorly located. There are considerable benefits to be gained from a rationalization of industrial locations over time, including the relocation of existing industries in unsuitable locations, and the provision of industrial sites for new investment in the West Bank. The successful start up of the Gaza Industrial Estate (GIE), has shown the way forward and it is now appropriate and urgent to similarly develop new industrial estate solutions in the West Bank. Currently several feasibility studies have been undertaken on the subject of some potential Industrial Estate/Free Zones (IE/FZ) sites in the West Bank, namely sites at Nablus and Jenin. Other sites have been considered in a preliminary fashion at Qalqilia, and Deir Sharef. A full feasibility study is currently under way for a Technology Development Center at Khadoury, Tulkarem. MOPIC has conducted a study on potential sites in the West Bank, resulting in 8 candidate sites. However, to date, a number of factors have resulted in a lack of progress in IE site development. These include a preponderance of sites in Area C where the development is contingent on permission being received from the Israeli Authorities – this permission has not yet been granted; and development feasibility criteria not met due to unsuitable terrain.

Upon the request of USAID, the TSG-SITE Project is performing a site search in the West Bank with the objective of identifying some alternative site development opportunities to those sites already being currently considered by PIEFZA. This Scope of Work relates to this work, and will provide the basis for a complete picture of all suitable IE/FZ sites in the West Bank, in order to facilitate the continued success of the Palestinian IE/FZ program.

A matrix for site evaluation has already been developed under the TSG-SITE project. It is envisaged that these criteria will be applied to a number of new sites in the West Bank, and resulting from this study at least three new industrial estate development sites will be identified.

Objectives

The objectives of this IE/FZ site identification effort include:

1. Visit as many potential industrial sites as possible in the West Bank and gather information relevant to their suitability for potential IE/FZ development.
2. Apply to the visited industrial sites, the available set of guidelines and criteria for evaluating suitability for potential IE/FZ development.
3. Rank the visited industrial sites, in terms of suitability for IE/FZ development, availability for development.

Tasks

The consultant will undertake the following tasks:

Task 1: Review previous feasibility studies & other related sources of information.

Previous consultant teams have already produced feasibility studies for the Jenin and Nablus potential IE/FZ sites in the West Bank. TSG has also produced some reports regarding the Tulkarm and Qalqilia potential IE/FZ sites. The Ministry of Planning and international Cooperation (MOPIC) has a study related to potential IE/FZ sites in the region. The consultant will review these and other reports, drawing upon relevant information to help in understanding the general context for IE/FZ development in the region.

Task 2: Apply the available set of guidelines & criteria for evaluating potential IE/FZ sites. The consultant should concentrate initially on potential sites within Areas "A" and "B". The criteria to be applied are those contained in the TSG site assessment report, February 1999. These include such aspects as suitability of terrain, proximity of existing infrastructure and utilities, demographics of nearby communities and location in relation to major transport hubs, land ownership, and so on. Sites should be no smaller than 40ha and need not be bigger than 100ha.

Task 3: Visit and review potential sites. The consultant will visit as many industrial sites as possible in the West Bank, to identify their potential for IE/FZ development and to verify on site characteristics. At least 10 sites should be visited, and information gathered to substantiate their suitability. The consultant will also visit the Rafah area in Gaza to identify its potential for IE/FZ development and to verify on site characteristics.

Task 4: Rank sites. Using a methodology that incorporates the scores of potential sites according to the available set of guidelines and criteria, the consultant will rank the sites in terms of suitability for IE/FZ development. The results of this ranking exercise will be presented in both graphic and textual formats.

Task 5: Write Final report. This report should present the results of all the above tasks, and shall be submitted not later than four- calendar weeks following the consultant's fieldwork.

Deliverables

The concrete deliverables associated with this assignment include:

1. Technical ranking of visited industrial sites for potential IE/FZ development.
2. Final report

Start and Finish Dates

Start-up is currently scheduled for July 14, 1999. All deliverables should be finished on or before August 31, 1999.

Consultant

Mr. Can Tutuncu, is proposed to carry out the tasks and produce the deliverables as specified above.

Level of Effort

Mr. Tutuncu, will require 40 consulting days to accomplish the work contemplated in this assignment.

Field Work/Travel

Following 2 days of preparation, the consultant will travel to the West Bank for approximately 19 days (22 calendar days) to undertake fieldwork included in Tasks 1-4. He will then have approx. 23 calendar days to complete his analysis and submit his final report (task 5).

Local Support

The consultant will be assigned a local counterpart from PIEFZA for the duration of the fieldwork. The counterpart will be responsible for arranging site visits, gathering site specific information from local authorities and other appropriate bodies, and for arranging liaison with the Palestinian Authority.

ANNEX 3

Scope of Work

TSG Project No.:	431
USAID Contract No.:	294-C-00-98-00110-00
Component:	IE/FZ Feasibility Studies
Activity:	<u>Prefeasibility Study of the Best Site Sweep Sites & TOR</u> Development for a New IE/FZ Feasibility Study
PIEFZA Counterparts:	Mr. Ismail Abu Shehada, Executive Director
Project Manager:	Dr. Minor Vargas, SITE Project Director & PIEFZA Resident Advisor

Background

The Palestinian Industrial Estate and Free Zone Authority (PIEFZA) is in the early stages of establishing itself and gearing up for its regulatory and promotional responsibilities. The passage of the revised PIEFZA law at the beginning of November 1998 has fortified the legal standing of this nascent institution. An active leadership is moving quickly to bring in new staff and facilities necessary for the organization's activities. PIEFZA is now getting its first practical experience-- dealing with investors, facilitating their start-up and operations, and other related activities.

PIEFZA originally expected to focus its early efforts on operational issues related exclusively to the GIE, waiting until a later stage before engaging in feasibility studies for new IE/FZs. However, recent developments have increased the urgency for beginning such feasibility studies sooner rather than later. In particular, economic aid approved for the Palestinian Authority as part of the Wye Plantation agreement is being targeted toward new IE/FZs in the West Bank and Gaza.

The Services Group has undertaken a preliminary work to identify the potential sites that are most suitable for industrial estate development in West Bank and Gaza through a Site Sweep study. Thirty sites were visited and ranked technically in terms of suitability for development and from the national context point of view. The ranking yielded eight First-Tier sites that were best candidates for future development.

Upon the request of USAID, the TSG-SITE project is now laying the foundation for early execution of at least one IE/FZ feasibility study in the West Bank and Gaza. This preparatory work, the subject of the present terms of reference, will play an important role in ensuring the continued success of the Palestinian IE/FZ program.

Objectives

Following up the Site Sweep, the objectives of this pre-feasibility study of the best three options out of the Site Sweep Sites include the following:

1. Visit three selected sites (to be discussed with USAID and PIEFZA) that ranked among the First Tier of the Site Sweep Study within in West Bank and

Gaza and gather detailed information relevant to their suitability for potential IE/FZ development. Factors to be considered in more detail, which will affect the timing and cost of a future industrial estate, will contain:

- Land Ownership
- Administrative Zoning and likely designation in future
- Geotechnical aspects
- Environmental aspects
- Availability of infrastructure services
- Outcome of the Investor Targeting Strategy for Industrial Estates in West Bank and Gaza

2. Draft Terms of Reference for undertaking a comprehensive feasibility study for the highest ranked site as a result of this prefeasibility study.

Tasks

In order to accomplish the objectives, the consultants will undertake the following tasks:

Task 1: Review the Site Sweep study & other related sources of information. Previously, a Site Sweep study was carried to identify the most suitable sites for potential Industrial Estate development in West Bank and Gaza. The consultants will review this and other reports, drawing upon relevant information to help in understanding the general context for IE/FZ development, and when possible, specific conditions that may apply to one or more of the candidate sites subject of the present TOR.

Task 2: Visit and review potential sites. Consultants will visit three sites in the West Bank identified as holding potential for becoming IE/FZs. These may include Al Masudiya (Deir Sharaf), Jericho South, and Arab al Fureijat or other sites. Key factors and criteria relevant to IE/FZ feasibility (such as Land Ownership, Current and likely future designation of the sites, geotechnical and environmental aspects, availability of infrastructure services) will be reviewed for each site. Both quantitative and qualitative information will be gathered relevant to costs and benefits of developing each of the sites.

Task 3: Produce TOR for conducting IE/FZ feasibility study. TOR will be oriented toward the top-ranked IE/FZ site and be structured in such a way as to maximize participation of local IE/FZ developers and/or consultants. A draft version should be presented before the end of the consultant's field work; a revised, final version should be prepared and submitted along with the final report.

Task 4: Write report. The draft report should present the results of the above tasks and shall be delivered no later than two weeks following the consultants' field work. A final version of this report, including a revised final version of the TOR shall be submitted no later than a week following the revisions by USAID and PIEFZA.

Deliverables

The concrete deliverables associated with this assignment include:

1. Draft and final versions of TOR for IE/FZ feasibility study
2. A draft and a final report on the results of the study

Start and Finish Dates

Start-up is currently scheduled for _____. All deliverables should be finished on or before a calendar week after the return date of the comments on the draft report by USAID and PIEFZA.

Consultants

A TSG IE/FZ expert, an Environmental Impact Assessment (EIA) specialist and a local geotechnical engineer are proposed to carry out the tasks and produce the deliverables as specified above.

Level of Effort

The Team Leader will require 35 working days, and the geotechnical engineer and EIA specialist will require 30 working days each to accomplish the work contemplated in this assignment.

Field Work/Travel

Following 2 days of preparation, the consultants will travel to West Bank for approximately 12 working days to undertake field work included in Task 2. They will then have 14 additional working days to finish the draft version of the TOR and the report (task 3 & 4). The team leader will have 4 days to finalize the report and the TOR, while the other consultants will have 2 days to finalize their inputs for the final report. The Team Leader will travel to West Bank for approximately 3 days to present the final report and the final TOR for the feasibility study.

Local Support

The consultants will be assigned a local counterpart from PIEFZA for the duration of the fieldwork. The counterpart will be responsible for arranging site visits, gathering site specific information from local authorities and other appropriate bodies, and for arranging liaison with the Palestinian Authority.